What is claimed is:

1. A method for potentiating morphogen activity, comprising administering to a mammal a composition comprising a molecule capable of releasing morphogen inhibition.

2. A method for promoting neuronal cell growth, comprising administering to a mammal a composition comprising a molecule capable of releasing morphogen inhibition, thereby to potentiate growth-promoting effects of endogenous morphogens.

3. A method for treating a disorder characterized by neuronal cell loss, comprising administering to a mammal a composition comprising a molecule capable of releasing morphogen inhibition, thereby to potentiate growth-promoting effects of endogenous morphogens.

4. A method for treating a neurodegenerative disorder, comprising administering to a mammal a composition comprising a molecule capable of releasing morphogen inhibition.

5. The method of claim 1, wherein said morphogen activity is endogenous.

6. The method of claim 1, wherein said morphogen activity is the result of an exogenously provided morphogen.

7. The method of claim 4, wherein said composition further comprises a morphogen.

8. The method of claim 3 or 4, wherein said disorder is selected from the group consisting of: Alzheimer's disease, Parkinson's disease, Huntington's disease, senile dementia, alcohol-induced dementia, and stroke.

9. The method of claim 1, 2, 3 or 4, wherein said agent capable of releasing morphogen inhibition is selected from the group consisting of a cytokine antagonist, a retinoid antagonist, and a protein kinase A inhibitor.

10. The method of claim 9, wherein said cytokine antagonist is a neuropoetic cytokine antagonist.

11. The method of claim 10, wherein said neuropoetic cytokine antagonist is selected from the group consisting of an LIF antagonist and a CTNF antagonist.

12. The method of claim 11, wherein said LIF antagonist is monoclonel antibody to the gp130 protein.

13. The method of claim 9, wherein said retinoid antagonist is a retinoic acid receptor antagonist.

14. The method of claim 9, wherein said retinoid antagonist is a retinoid X receptor antagonist.

15. The method of claim 9, wherein said protein kinese A inhibitor is selected from the group consisting of (2-p-bromocynnamylaminoethyl) -5- isoquinolinesulfonamide, an enantiomer of dibutyryl cAMP, and an enantiomer of cAMP.

16. The method of claim 7, wherein said morphogen comprises an amino acid sequence selected from the group consisting of a sequence:

(a) having at least 70% homology with the C-terminal seven-cysteine skeleton of human OP-1, residues 330-431 of SEQ ID NO: 2;

(b) having greater than 60% amino acid sequence identity with said C-terminal seven-cysteine skeleton of human OP-1;

(c) defined by Generic Sequence 7, SEQ ID NO: 4;

(d) defined by Generic Sequence 8, SEQ ID NO: 5;

(e) defined by Generic Sequence 9, SEQ ID NO: 6;

(f) defined by Generic Sequence 10, SEQ ID NO: 7; and

(g) defined by OPX, SEQ ID NO: 3.

17. The method of claim 7, wherein said morphogen is selected from the group consisting of human OP-1, mouse OP-1, human OP-2, mouse OP-2, 60A, GDF-1, BMP2A, BMP2B, DPP, Vgl, Vgr-1, BMP3, BMP5, and BMP6.

18. The method of claim 7, wherein said morphogen is OP-1.

19. A method for potentiating morphogen activity comprising the step of administering to a mammal a composition comprising a molecule that binds an endogenous ligand for a receptor selected from the group consisting of a cytokine receptor and a retinoid receptor.

20. The method of claim 19, wherein said cytokine receptor is a neuropoetic cytokine receptor.

21. The method of claim 20, wherein said neuropoetic cytokine receptor is selected from the group consisting of an LIF receptor and a CTNF receptor.

22. The method of claim 19, wherein said retinoid receptor is a retinoic acid receptor.

23. The method of claim 19, wherein said retinoid receptor is a retinoid X receptor.

24. A method for potentiating morphogen activity comprising the step of

administering to a mammal a composition comprising a cAMP-dependent messenger pathway inhibitor.

25. The mehtod of claim 24, wherein said cAMP-dependent messenger pathway inhibitor comprises a protein kinase A inhibitor.

26. The method of claim 25, wherein said protein kinese A inhibitor is selected from the group consisting of (2-p-bromocynnamylaminoethyl) -5- isoquinolinesulfonamide, an enantiomer of dibutyryl cAMP, and an enantiomer of cAMP.

27. A screening method for identifying a molecule capable of potentiating morphogen activity, comprising the steps of

(1) providing a test cell comprising a morphogen inhibitory element, said cell, when contacted with OP-1, not undergoing tissue morphogenesis;

(2) exposing said test cell to OP-1 and a candidate molecule; and

(3) identifying a molecule capable of potentiating morphogen activity as a candidate that releases morphogen inhibition permiting said cell to undergo OP-1-induced tissue morphogenesis.

28. The screening method of claim 27, wherein said test cell is selected from the group consisting of sympathetic nerves, hippocampus, cerebral cortex, striatum, kidney, liver, adrenals, urinary bladder, and testes.

29. A molecule identified by the method of claim 27.

30. The molecule of claim 29, wherein said molecule is a protein.

31. The molecule of claim 29, wherein said molecule is an inorganic molecule.

32. The molecule of claim 29, wherein said molecule is an organic molecule.

add c17